NEUROSCIENCE

An International Journal under the editorial direction of IBRO

Volume 18, 1986

TITLE SECTION
LIST OF CONTENTS
AND AUTHOR INDEX

PERGAMON PRESS OXFORD · NEW YORK
BEIJING · FRANKFURT · SÃO PAULO · SYDNEY · TOKYO · TORONTO

NEUROSCIENCE

Chief Editors

P. G. KOSTYUK: *Department of General Physiology, A. A. Bogomoletz Institute of Physiology, Academy of Sciences, Ukrainian SSR, 4 Bogomoletz Street, Kiev 24, 252601 GSP, U.S.S.R.*

R. LLINÁS: *Department of Physiology and Biophysics, New York University School of Medicine, 550 First Avenue, New York 10016, U.S.A.*

A. D. SMITH: *Department of Pharmacology, University of Oxford, South Parks Road, Oxford OX1 3QT, U.K.*

Editorial Board

R. G. BAKER (*New York*)
P. BANKS (*Sheffield*)
K. J. BERKLEY (*Tallahassee, FL*)
D. BIESOLD (*Leipzig*)
A. BJÖRKLUND (*Lund*)
P. BRODAL (*Oslo*)
A. G. BROWN (*Edinburgh*)
G. TEN BRUGGENCATE (*Munich*)
J. BUREŠ (*Prague*)
R. E. BURKE (*Bethesda, MD*)
A. L. BYSOV (*Moscow*)
I. W. CHUBB (*Wollongong*)
F. CLEMENTI (*Milan*)
B. COLLIER (*Montreal*)
M. COSTA (*Adelaide*)
A. C. CUELLO (*Montreal*)
W. J. DAVIS (*Santa Cruz*)
I. M. L. DONALDSON (*Hull*)
D. EDGAR (*Munich*)
C. EDWARDS (*Bethesda, MD*)
D. S. FABER (*Buffalo, NY*)
D. M. FAMBROUGH (*Baltimore*)
V. V. FANARDJIAN (*Yerevan*)
G. GABELLA (*London*)
W. F. GANONG (*San Francisco*)
H. M. GERSCHENFELD (*Paris*)
A. M. GRAYBIEL (*Cambridge, MA*)
R. W. GUILLERY (*Oxford*)
G. HAEUSLER (*Darmstadt*)
J. HÁMORI (*Budapest*)
L. HEIMER (*Charlottesville*)
M. HERKENHAM (*Bethesda*)
D. E. HILLMAN (*New York*)
T. HÖKFELT (*Stockholm*)
E. HOLTZMAN (*New York*)
O. HORNYKIEWICZ (*Vienna*)
J. HOUNSGAARD (*Copenhagen*)
S. P. HUNT (*Cambridge*)
M. ITO (*Tokyo*)
G. JAIM-ETCHEVERRY (*Buenos Aires*)
J. S. KELLY (*Edinburgh*)
B. I. KHODOROV (*Moscow*)
G. W. KREUTZBERG (*Munich*)
K. KRNJEVIĆ (*Montreal*)
H. G. J. M. KUYPERS (*Cambridge*)
L. LUBINSKA (*Warsaw*)
L. MAFFEI (*Pisa*)
C. A. MARSDEN (*Nottingham*)
M. R. MATTHEWS (*Oxford*)
P. B. C. MATTHEWS (*Oxford*)
A. I. MATUS (*Basel*)
R. E. MCCAMAN (*Duarte, CA*)
D. K. MOREST (*Farmington, CT*)
I. G. MORGAN (*Canberra*)
J. F. MORRIS (*Oxford*)
É. MUGNAINI (*Storrs*)
W. J. H. NAUTA (*Cambridge, MA*)
F. ORREGO (*Santiago, Chile*)
M. OTSUKA (*Tokyo*)
J. M. PALACIOS (*Basle*)
S. L. PALAY (*Boston*)
R. E. PASSINGHAM (*Oxford*)
V. H. PERRY (*Oxford*)
J. M. POLAK (*London*)
P. RAKIC (*New Haven*)
H. J. RALSTON (*San Francisco*)
T. S. REESE (*Woods Hole*)
F. REINOSO-SUÁREZ (*Madrid*)
M. RÉTHELYI (*Budapest*)
P. N. RUDOMIN (*Mexico City*)
M. L. SHELANSKI (*New York*)
S. M. SHERMAN (*Stony Brook, NY*)
M. L. SHIK (*Moscow*)
M. V. SOFRONIEW (*Cambridge*)
P. SOMOGYI (*Oxford*)
C. SOTELO (*Paris*)
K. STARKE (*Freiburg*)
C. F. STEVENS (*New Haven*)
L. STJÄRNE (*Stockholm*)
C. STUMPF (*Vienna*)
K. SUZUKI (*Chapel Hill*)
R. F. THOMPSON (*Irvine, CA*)
D. A. VASILENKO (*Kiev*)
E. S. VIZI (*Budapest*)
J. VOOGD (*Leiden*)
L. VYKLICKY (*Prague*)
K. E. WEBSTER (*London*)
R. WERMAN (*Jerusalem*)
W. D. WILLIS (*Galveston*)
H. WINKLER (*Innsbruck*)
L. R. YOUNG (*Cambridge, MA*)
S. ZEKI (*London*)
H. ZIMMERMAN (*Frankfurt*)

IBRO Publications Committee

Chairman, A. D. SMITH; M. ITO, E. R. KANDEL, P. G. KOSTYUK, K. KRNJEVIĆ, R. LLINÁS, D. RICHTER.

Aims and Scope:
Neuroscience publishes papers describing the results of original research on any aspect of the scientific study of the nervous system. Since one of the chief aims of the journal is to promote communication between neuroscientists, the type of paper most suitable for publication is that in which new observations are clearly and succinctly reported and in which the purpose of the study is made meaningful to scientists of other disciplines. Any paper, however short, will be considered for publication provided that it reports significant, new and carefully confirmed findings with full experimental details. For *Instructions to Authors* see Vol. 18, No. 1, pp. i–iv.

Production Controller: R. L. WATSON. *Editorial Assistant:* S. J. RUSSELL.

Publishing, Subscription and Advertising Offices: Headington Hill Hall, Oxford OX3 0BW (Oxford 64881). Published monthly (three volumes per annum). 1986 *Subscription (including postage and insurance): to libraries, research establishments and all other multiple reader institutions DM 2700; 2 year rate DM 5130; members of the International Brain Research Organization may order personal subscriptions at a concessional rate and details of these rates are available on request. Airmail Subscription extra. Subscription enquiries from customers in North America should be sent to: Pergamon Journals Inc., Maxwell House, Fairview Park, Elmsford, NY 10523, U.S.A., and for the remainder of the world to: Pergamon Journals Ltd, Headington Hill Hall, Oxford OX3 0BW, U.K.*

Specially reduced rates to individuals: In the interests of maximizing the dissemination of the research results published in this important international journal we have established a two-tier price structure. Any individual whose institution takes out a library subscription, may purchase a second or additional subscription for their personal use at the much reduced rate of DM 271 per annum. Prices are subject to change without notice.

Back issues of all previously published volumes are available in the regular editions and on microfilm and microfiche. Current subscriptions are available on microfiche simultaneously with the paper edition and on microfilm on completion of the annual index at the end of the subscription year.

Copyright © 1986 IBRO

For Copyright details, see Inside Back Cover

Front cover illustration: Section of a nerve in the spinal cord of the ox, reproduced by permission of the Bodleian Library, Oxford from Antoni van Leeuwenhoek. *Epistolae physiologicae super compluribus naturae arcanis*, figure 2 facing page 312. A. Beman, Delft, 1719.

PERGAMON JOURNALS LTD
HEADINGTON HILL HALL, OXFORD OX3 0BW
MAXWELL HOUSE, FAIRVIEW PARK, ELMSFORD, NY 10523, U.S.A.

LIST OF CONTENTS

VOLUME 18 NUMBER 1 MAY 1986

COMMENTARY

F. Valverde — Intrinsic neocortical organization: some comparative aspects — 1

RESEARCH PAPERS

P. Hammond and **G. S. V. Mouat** — Influence of stimulus length on directional bias of complex cells in cat striate cortex — 25

G. Bernardi, P. Calabresi, N. Mercuri and **P. Stanzione** — Action of morphine on rat cortical neurons intracellularly recorded *in vivo*: evidence for an excitatory postsynaptic effect which is naloxone insensitive — 31

R. M. McAllen — Location of neurones with cardiovascular and respiratory function, at the ventral surface of the cat's medulla — 43

R. M. McAllen — Action and specificity of ventral medullary vasopressor neurones in the cat — 51

L. Turski, E. A. Cavalheiro, W. A. Turski and **B. S. Meldrum** — Excitatory neurotransmission within substantia nigra pars reticulata regulates threshold for seizures produced by pilocarpine in rats: effects of intranigral 2-amino-7-phosphonoheptanoate and *N*-methyl-D-aspartate — 61

T. M. Cook and **K. A. Crutcher** — Intrahippocampal injection of kainic acid produces significant pyramidal cell loss in neonatal rats — 79

R. Gardette and **F. Crepel** — Chemoresponsiveness of intracerebellar nuclei neurones to L-aspartate, L-glutamate and related derivatives in rat cerebellar slices maintained *in vitro* — 93

R. J. Person, J. A. Andrezik, K. J. Dormer and **R. D. Foreman** — Fastigial nucleus projections in the midbrain and thalamus in dogs — 105

C. B. Jaeger — Aromatic L-amino acid decarboxylase in the rat brain: immunocytochemical localization during prenatal development — 121

L. Stjärne, J. M. Lundberg and **P. Åstrand** — Neuropeptide Y—A cotransmitter with noradrenaline and adenosine 5′-triphosphate in the sympathetic nerves of the mouse vas deferens? A biochemical, physiological and electropharmacological study — 151

R. Fischer-Colbrie, J. Diez-Guerra, P. C. Emson and **H. Winkler** — Bovine chromaffin granules: immunological studies with antisera against neuropeptide Y, [Met]enkephalin and bombesin — 167

J. F. Margiotta and **D. K. Berg** — Enkephalin and substance P modulate synaptic properties of chick ciliary ganglion neurons in cell culture — 175

C. M. Yates, I. Laszlo, G. Fink, I. Hastings, J. Boyd and **K. James** — Monoclonal antibodies to human hypoglossal nucleus which stain neurons and astrocytes in normal brains and brains from cases of Alzheimer-type dementia — 183

P. Dévay, M. Pintér, A. S. Yalcin and **P. Friedrich** — Altered autophosphorylation of adenosine 3′,5′-phosphate-dependent protein kinase in the *Dunce* memory mutant of *Drosophila melanogaster* — 193

A. J. C. Östberg, G. Vrbová and **R. A. D. O'Brien** — Reinnervation of fast and slow mammalian muscles by a superfluous number of motor axons — 205

E. Sas and L. Maler	The optic tectum of gymnotiform teleosts *Eigenmannia virescens* and *Apteronotus leptorhynchus*: a Golgi study	215
E. Sas and L. Maler	Retinofugal projections in a weakly electric gymnotid fish (*Apteronotus leptorhynchus*)	247

VOLUME 18 NUMBER 2 JUNE 1986

COMMENTARY

H. Winkler, D. K. Apps and R. Fischer-Colbrie	The molecular function of adrenal chromaffin granules: established facts and unresolved topics	261

RESEARCH PAPERS

S. E. Loughlin, S. L. Foote and F. E. Bloom	Efferent projections of nucleus locus coeruleus: topographic organization of cells of origin demonstrated by three-dimensional reconstruction	291
S. E. Loughlin, S. L. Foote and R. Grzanna	Efferent projections of nucleus locus coeruleus: morphologic subpopulations have different efferent targets	307
J. Velly, B. Cardo and L. Velley	Delayed up-regulation of α-adrenoceptor populations in particular regions of the rat brain after stimulation of the nucleus locus coeruleus	321
J. C. Reubi, R. Cortès, R. Maurer, A. Probst and J. M. Palacios	Distribution of somatostatin receptors in the human brain: an autoradiographic study	329
Y. Smith and A. Parent	Differential connections of caudate nucleus and putamen in the squirrel monkey (*Saimiri sciureus*)	347
R.-B. Illing and A. M. Graybiel	Complementary and non-matching afferent compartments in the cat's superior colliculus: innervation of the acetylcholinesterase-poor domain of the intermediate gray layer	373
M. Yamano, S. Inagaki, S. Kito and M. Tohyama	A substance P-containing pathway from the hypothalamic ventromedial nucleus to the medial preoptic area of the rat: an immunohistochemical analysis	395
L. Jennes and W. E. Stumpf	Gonadotropin-releasing hormone immunoreactive neurons with access to fenestrated capillaries in mouse brain	403
F. Hajós, G. Garthwaite and J. Garthwaite	Reversible and irreversible neuronal damage caused by excitatory amino acid analogues in rat cerebellar slices	417
G. Garthwaite, F. Hajós and J. Garthwaite	Ionic requirements for neurotoxic effects of excitatory amino acid analogues in rat cerebellar slices	437
J. Garthwaite, G. Garthwaite and F. Hajós	Amino acid neurotoxicity: relationship to neuronal depolarization in rat cerebellar slices	449
J. Toldi, O. Fehér and J. R. Wolff	Sensory interactive zones in the rat cerebral cortex	461
A. K. Engel and G. W. Kreutzberg	Changes of acetylcholinesterase molecular forms in regenerating motor neurons	467
M. A. Kai-Kai, B. H. Anderton and P. Keen	A quantitative analysis of the interrelationships between subpopulations of rat sensory neurons containing arginine vasopressin or oxytocin and those containing substance P, fluoride-resistant acid phosphatase or neurofilament protein	475

Y. Julé, N. Clerc. J. P. Niel and M. Condamin	[Met]- and [Leu]enkephalin-like immunoreactive cell bodies and nerve fibres in the coeliac ganglion of the cat	487
S. E. Moore and F. S. Walsh	Nerve dependent regulation of neural cell adhesion molecule expression in skeletal muscle	499
B. Key and P. P. Giorgi	Selective binding of soybean agglutinin to the olfactory system of *Xenopus*	507

VOLUME 18 NUMBER 3 JULY 1986

D. L. Needels, M. Nieto-Sampedro and C. W. Cotman	Induction of a neurite-promoting factor in rat brain following injury or deafferentation	517
M. E. de Quidt and P. C. Emson	Distribution of neuropeptide Y-like immunoreactivity in the rat central nervous system—I. Radioimmunoassay and chromatographic characterisation	527
M. E. de Quidt and P. C. Emson	Distribution of neuropeptide Y-like immunoreactivity in the rat central nervous system—II. Immunohistochemical analysis	545
A. M. Stuart, I. J. Mitchell, P. Slater, H. L. P. Unwin and A. R. Crossman	A semi-quantitative atlas of 5-hydroxytryptamine-1 receptors in the primate brain	619
M. H. Millan, M. J. Millan and A. Herz	Depletion of central β-endorphin blocks midbrain stimulation produced analgesia in the freely-moving rat	641
N. D. Martensz, S. V. Vellucci, E. B. Keverne and J. Herbert	β-Endorphin levels in the cerebrospinal fluid of male talapoin monkeys in social groups related to dominance status and the luteinizing hormone response to naloxone	651
M. Cador, A. E. Kelley, M. Le Moal and L. Stinus	Ventral tegmental area infusion of substance P, neurotensin and enkephalin: differential effects on feeding behavior	659
A. Alonso, M. J. Blanco, C. L. Paino and F. J. Rubia	Distribution of neurons in the main cuneate nucleus projecting to the inferior olive in the cat. Evidence that they differ from those directly projecting to the cerebellum	671
A. Björklund, H. Nornes and F. H. Gage	Cell suspension grafts of noradrenergic locus coeruleus neurons in rat hippocampus and spinal cord: reinnervation and transmitter turnover	685
H. Motz and F. Rattay	A study of the application of the Hodgkin–Huxley and the Frankenhaeuser–Huxley model for electrostimulation of the acoustic nerve	699
P. Alm, Ch. Owman, N.-O. Sjöberg, M. Stjernquist and F. Sundler	Histochemical demonstration of a concomitant reduction in neural vasoactive intestinal polypeptide, acetylcholinesterase, and noradrenaline of cat uterus during pregnancy	713
H. C. Su, J. Wharton, J. M. Polak, P. K. Mulderry, M. A. Ghatei, S. J. Gibson, G. Terenghi, J. F. B. Morrison, J. Ballesta and S. R. Bloom	Calcitonin gene-related peptide immunoreactivity in afferent neurons supplying the urinary tract: combined retrograde tracing and immunohistochemistry	727

M. Réthelyi, M. Z. Salim and **G. Jancsó**	Altered distribution of dorsal root fibers in the rat following neonatal capsaicin treatment	749
T. Sittiracha and **E. M. McLachlan**	Evaluation of the effects of various additives on retrograde labelling by horseradish peroxidase applied to intact and transected hindlimb nerves of rat and rabbit	763
H. Jans, R. Salzmann and **A. Wernig**	Sprouting and nerve retraction in frog neuromuscular junction during ontogenesis and environmental changes	773

VOLUME 18 NUMBER 4 AUGUST 1986

D. L. Felten, S. Y. Felten, K. W. Perry, R. W. Fuller, J. I. Nurnberger and **B. Ghetti**	Noradrenergic innervation of the cerebellar cortex in normal and in Purkinje cell degeneration mutant mice: evidence for long term survival following loss of the two major cerebellar cortical neuronal populations	783
L. C. Triarhou and **B. Ghetti**	Monoaminergic nerve terminals in the cerebellar cortex of Purkinje cell degeneration mutant mice: fine structural integrity and modification of cellular environs following loss of Purkinje and granule cells	795
R. M. Kostrzewa and **C. T. Harston**	Altered histofluorescent pattern of noradrenergic innervation of the cerebellum of the mutant mouse Purkinje cell degeneration	809
E. Eidelberg, B. A. Brooks, W. W. Morgan, J. G. Walden and **R. H. Kokemoor**	Variability and functional recovery in the *N*-methyl-4-phenyl-1,2,3,6-tetrahydropyridine model of parkinsonism in monkeys	817
V. V. Petukhov and **V. I. Popov**	Quantitative analysis of ultrastructural changes in synapses of the rat hippocampal field CA3 *in vitro* in different functional states	823
D. R. Gehlert, R. C. Speth and **J. K. Wamsley**	Distribution of [^{125}I]angiotensin II binding sites in the rat brain: a quantitative autoradiographic study	837
J. C. Beaujouan, Y. Torrens, M. Saffroy and **J. Glowinski**	Quantitative autoradiographic analysis of the distribution of binding sites for [^{125}I]Bolton Hunter derivatives of eledoisin and substance P in the rat brain	857
A. R. Wakade, R. K. Malhotra, T. D. Wakade and **W. R. Dixon**	Simultaneous secretion of catecholamines from the adrenal medulla and of [^{3}H]norepinephrine from sympathetic nerves from a single test preparation: different effects of agents on the secretion	877
L. Quintin, G. Hilaire and **J.-F. Pujol**	Variations in 3,4-dihydroxyphenylacetic acid concentration are correlated to single cell firing changes in the rat locus coeruleus	889
B. E. Jones, M. Paré and **A. Beaudet**	Retrograde labeling of neurons in the brain stem following injections of [^{3}H]choline into the rat spinal cord	901
J. G. Wolters, H. J. ten Donkelaar and **A. A. J. Verhofstad**	Distribution of some peptides (substance P, [Leu]enkephalin, [Met]enkephalin) in the brain stem and spinal cord of a lizard, *Varanus exanthematicus*	917
P. M. Sweetnam, J. R. Wrathall and **J. H. Neale**	Localization of dynorphin gene product-immunoreactivity in neurons from spinal cord and dorsal root ganglia	947
J. K. Ono	Localization and identification of neurons with cholecystokinin and gastrin-like immunoreactivity in wholemounts of *Aplysia* ganglia	957

T. Kosaka, I. Nagatsu, J.-Y. Wu and **K. Hama**	Use of high concentrations of glutaraldehyde for immunocytochemistry of transmitter-synthesizing enzymes in the central nervous system	975
R. Matsas, A. J. Kenny and **A. J. Turner**	An immunohistochemical study of endopeptidase-24.11 ("enkephalinase") in the pig nervous system	991
J. G. Bjaalie	Distribution of corticopontine neurons in visual areas of the middle suprasylvian sulcus: quantitative studies in the cat	1013
T. Shirokawa and **T. Kasamatsu**	Concentration-dependent suppression by β-adrenergic antagonists of the shift in ocular dominance following monocular deprivation in kitten visual cortex	1035
BOOK REVIEWS		
I. M. L. Donaldson	*Foundations of Sensory Science*	1047
V. H. Perry	*Molecular Bases of Neural Development*	1047
F. A. Antoni	*Immunocytochemistry*	1048

AUTHOR INDEX

Alm, P. 713
Alonso, A. 671
Anderton, B. H. 475
Andrezik, J. A. 105
Antoni, F. A. 1048
Apps, D. K. 261
Åstrand, P. 151

Ballesta, J. 727
Beaudet, A. 901
Beaujouan, J. C. 857
Berg, D. K. 175
Bernardi, G. 31
Bjaalie, J. G. 1013
Björklund, A. 685
Blanco, M. J. 671
Bloom, F. E. 291
Bloom, S. R. 727
Boyd, J. 183
Brooks, B. A. 817

Cador, M. 659
Calabresi, P. 31
Cardo, B. 321
Cavalheiro, E. A. 61
Clerc, N. 487
Condamin, M. 487
Cook, T. M. 79
Cortès, R. 329
Cotman, C. W. 517
Crepel, F. 93
Crossman, A. R. 619
Crutcher, K. A. 79

de Quidt, M. E. 527, 545
Dévay, P. 193
Diez-Guerra, J. 167
Dixon, W. R. 877
Donaldson, I. M. L. 1047
Dormer, K. J. 105

Eidelberg, E. 817
Emson, P. C. 167, 527, 545
Engel, A. K. 467

Fehér, O. 461
Felten, D. L. 783
Felten, S. Y. 783
Fink, G. 183
Fischer-Colbrie, R. 167, 261
Foote, S. L. 291, 307
Foreman, R. D. 105
Friedrich, P. 193
Fuller, R. W. 783

Gage, F. H. 685
Gardette, R. 93
Garthwaite, G. 417, 437, 449
Garthwaite, J. 417, 437, 449
Gehlert, D. R. 837
Ghatei, M. A. 727
Ghetti, B. 783, 795
Gibson, S. J. 727
Giorgi, P. P. 507
Glowinski, J. 857
Graybiel, A. M. 373
Grzanna, R. 307

Hajós, F. 417, 437, 449
Hama, K. 975
Hammond, P. 25
Harston, C. T. 809
Hastings, I. 183
Herbert, J. 651
Herz, A. 641
Hilaire, G. 889

Illing, R.-B. 373
Inagaki, S. 395

Jaeger, C. B. 121
James, K. 183
Jancsó, G. 749
Jans, H. 773
Jennes, L. 403
Jones, B. E. 901
Julé, Y. 487

Kai-Kai, M. A. 475
Kasamatsu, T. 1035
Keen, P. 475
Kelley, A. E. 659
Kenny, A. J. 991
Keverne, E. B. 651
Key, B. 507
Kito, S. 395
Kokemoor, R. H. 817
Kosaka, T. 975
Kostrzewa, R. M. 809
Kreutzberg, G. W. 467

Laszlo, I. 183
Le Moal, M. 659
Loughlin, S. E. 291, 307
Lundberg, J. M. 151

Maler, L. 215, 247
Malhotra, R. K. 877
Margiotta, J. F. 175
Martensz, N. D. 651
Matsas, R. 991
Maurer, R. 329
McAllen, R. M. 43, 51
McLachlan, E. M. 763
Meldrum, B. S. 61
Mercuri, N. 31

Millan, M. H. 641
Millan, M. J. 641
Mitchell, I. J. 619
Moore, S. E. 499
Morgan, W. W. 817
Morrison, J. F. B. 727
Motz, H. 699
Mouat, G. S. V. 25
Mulderry, P. K. 727

Nagatsu, I. 975
Neale, J. H. 947
Needels, D. L. 517
Niel, J. P. 487
Nieto-Sampedro, M. 517
Nornes, H. 685
Nurnberger, J. I. 783

O'Brien, R. A. D. 205
Ono, J. K. 957
Östberg, A. J. C. 205
Owman, Ch. 713

Paino, C. L. 671
Palacios, J. M. 329
Paré, M. 901
Parent, A. 347
Perry, K. W. 783
Perry, V. H. 1047
Person, R. J. 105
Petukhov, V. V. 823
Pintér, M. 193
Polak, J. M. 727
Popov, V. I. 823
Probst, A. 329
Pujol, J.-F. 889

Quintin, L. 889

Rattay, F. 699
Réthelyi, M. 749
Reubi, J. C. 329
Rubia, F. J. 671

Saffroy, M. 857
Salim, M. Z. 749
Salzmann, R. 773
Sas, E. 215, 247
Shirokawa, T. 1035
Sittiracha, T. 763
Sjöberg, N.-O. 713
Slater, P. 619
Smith, Y. 347
Speth, R. C. 837
Stanzione, P. 31
Stinus, L. 659
Stjärne, L. 151
Stjernquist, M. 713
Stuart, A. M. 619
Stumpf, W. E. 403
Su, H. C. 727
Sundler, F. 713
Sweetnam, P. M. 947

ten Donkelaar, H. J. 917
Terenghi, G. 727
Tohyama, M. 395
Toldi, J. 461
Torrens, Y. 857
Triarhou, L. C. 795
Turner, A. J. 991
Turski, L. 61
Turski, W. A. 61

Unwin, H. L. P. 619

Valverde, F. 1
Velley, L. 321
Vellucci, S. V. 651
Velly, J. 321
Verhofstad, A. A. J. 917
Vrbová, G. 205

Wakade, A. R. 877
Wakade, T. D. 877
Walden, J. G. 817
Walsh, F. S. 499
Wamsley, J. K. 837
Wernig, A. 773
Wharton, J. 727
Winkler, H. 167, 261
Wolff, J. R. 461
Wolters, J. G. 917
Wrathall, J. R. 947
Wu, J.-Y. 975

Yalcin, A. S. 193
Yamano, M. 395
Yates, C. M. 183

INSTRUCTIONS TO AUTHORS

I. GENERAL

1. *Neuroscience* is devoted to the prompt publication of the results of original research on any aspect of the scientific study of the nervous system. **The type of paper most suitable for publication is that in which new observations are clearly and succinctly reported and in which an attempt is made to make the purpose and outcome of the study meaningful to scientists of other disciplines.** Detailed and/or very specialized papers will only be considered for publication if the authors have followed the latter suggestion. Since one of the chief aims is to promote communication between neuroscientists the journal will also include occasional commentaries on specific areas of neuroscience.

2. *The Editorial Board.* The international Editorial Board, which is appointed by the Publications Committee of IBRO, consists of specialists in all major branches of neuroscience. Each paper is read by at least two Editors or referees. Further opinions are sought if necessary. Papers are accepted by one of the Chief Editors acting on the advice of one or more members of the Board.

3. (a) *Papers reporting original research* are considered for publication provided that they describe **significant, new and carefully confirmed findings and that adequate experimental details are given.** Preliminary communications are not accepted. No distinction is made between short and long papers, although short papers satisfying the above criteria will probably be published more rapidly than long papers. All papers must be prepared according to the instructions given in Section II.

(b) *Commentaries* on a specific topic in neuroscience will normally be published *only following an invitation* to the author from one of the Chief Editors. Other prospective authors should obtain the agreement of a Chief Editor before submitting a manuscript. Commentaries are not exhaustive reviews but short articles (3000–10,000 words in length) intended either to draw attention to developments in a specific field for workers in other scientific disciplines, or to bring together observations over a wide area that seem to point in a new direction, or to give the author's personal views on a controversial topic, or to direct soundly based criticism at some widely held dogma or widely used technique in neuroscience. Authors should always endeavour to make their commentary understandable to neuroscientists of other disciplines.

(c) *Matters arising.* The Chief Editors have decided to introduce a new section to be called "Matters Arising". We feel that a limited amount of space in the journal ought to be available for genuine scientific comments about articles published in this journal. Such comments should be sent to any one of the Chief Editors and they should comply with the following guidelines.

Comments in the "Matters Arising" section should be no more than 1500 words long excluding references. They should be confined to important scientific points that arise out of papers previously published in *Neuroscience*. The Editors reserve the right to invite replies to such comments by the authors of the original papers. The Editors will decide when comments of this nature on any particular topic should be closed and after that no further comments on the same original article will be published.

4. Submission of a paper for *Neuroscience* will be held to imply that it represents original research not previously published (except in the form of an abstract of preliminary report), and that it is not being considered for publication elsewhere in similar form, in any language, without the consent of the editors of *Neuroscience*.

5. Manuscripts should be sent to one of the following Chief Editors: Prof. P. G. KOSTYUK, Department of Physiology and Biophysiology of Nerve Cells, A. A. Bogomoletz Institute of Physiology, Academy of Sciences, Ukrainian SSR, 4 Bogomoletz Street, Kiev 24, U.S.S.R.; Dr R. LLINÁS, Department of Physiology and Biophysics, New York University School of Medicine, 550 First Avenue, New York 10016, U.S.A.; Professor A. D. SMITH, Department of Pharmacology, University of Oxford, South Parks Road, Oxford OX1 3QT, England.

6. Reprints of each paper can be obtained at reasonable cost by ordering on the reprint order form supplied with the proofs. Authors (from the U.S.A., Canada and Japan), may alternatively obtain free reprints if they pay a *voluntary* page charge. There are no compulsory page charges.

II. MANUSCRIPT REQUIREMENTS

1. *Form*

(a) Manuscripts should be typewritten with **double or triple spacing** throughout and with margins at least 2.5 cm wide. If possible, A4 size (206 × 294 mm) paper should be used. **Three** copies of each manuscript should be submitted to facilitate reviewing by referees. It is only necessary to send photocopies of diagrams, or rough prints of halftones, with the second and third copies. Xerox copies of photographs are not acceptable for referees.

(b) Each manuscript must have a title page which includes only the title, the authors' names, the laboratory or origin, the name and address of the person to whom proofs should be mailed, and any necessary footnotes. Original manuscript and diagrams are discarded 1 month after publication unless the Publisher is requested to return original material to the author. Corrections to the proof should be restricted to printer's errors. Substantial alterations may be charged to the author.

(c) The title should be as short as is consistent with clarity. Papers should not be numbered in series, but subtitles are accepted. A list of abbreviations used *in the text* should be put at the bottom of the title page (see 2a and 6).

(d) A running title, not to exceed 56 letter spaces, should be included on a separate sheet.

(e) Pages should be numbered in succession, the title page being page 1.

(f) Tables and figures should be on separate pages placed at the end of the manuscript. Their desired approximate locations should be indicated in the margin of the text.

(g) Footnotes to the text should be used sparingly: where they must be used their locations should be indicated by the symbols *, †, ‡, §, ‖, ¶ in that order.

(h) Greek characters should be clearly indicated.

(i) Isotopic specifications should conform to the IUPAC system [*Biochem. J.* (1975) **145**, 1–20].

(j) *Drug names should be the official or approved names*; trade names or common names may be given in brackets where the drug is first mentioned. The manufacturer's name must be given. The doses of the drugs should be given as unit weight/unit body weight, e.g. mmol/kg or mg/kg. Concentrations should be given in terms of molarity, e.g. nM or μM, or as unit weight/unit volume solution, stating whether the weight refers to the salt or the active component of the drug. The molecular weight, inclusive of water of crystallizations, should be stated if doses are given as unit weight.